

ICEBREAKERS





APU

Length: 86.50m

Breadth: 21.20m

Draught: 7.30m

Propulsion

power: 10400kW

Speed in open water: 18.0 kn

PHONE: 049 314490

FAX: 049 314490.

Buildt: Wärtsilä,Helsinki , delivered at 1970.

Propulsion consist of twin sternpropellers and twin bow propellers, fixed pitch. Pitch is designed so that thrust is about the same in both direction.

Apu is the most conventional of all the icebreakers, there was time when all the icebreakers had about equal waterlines and propulsion system.

Sistervessel IB VARMA was sold to Latvia in 1994, and now operates mainly at the Gulf of Riga under the Latvian flag.



FENNICA NORDICA

Length Ao: 116.0m

Breadth: 26.0m

Draught: 7.0 - 8.4m

Propulsion : 15000kW

Speed in 0.8m ice: 11.0kn

Pollard pull: 232 tons

Buildt :Finnyards, Rauma and delivered 1993 and Nordica 1994

Propulsion consitst of two ducted stern azimuth thrusters, each 7,5 mW and because of the vessels DP-classification, she also has 3 x 1,1mW bowthrusters.

Both vessels are classified by DNV as “Icebreaker Polar 10” and “Canada Arctic class” CAC 4.

Special task: To make leads wider, she makes 70m wide lead at 0.8 m ice with the speed of 5 knots.

IMPORTANT NUMBERS:

PHONE: **FENNICA**
 049 107157
 049 107159

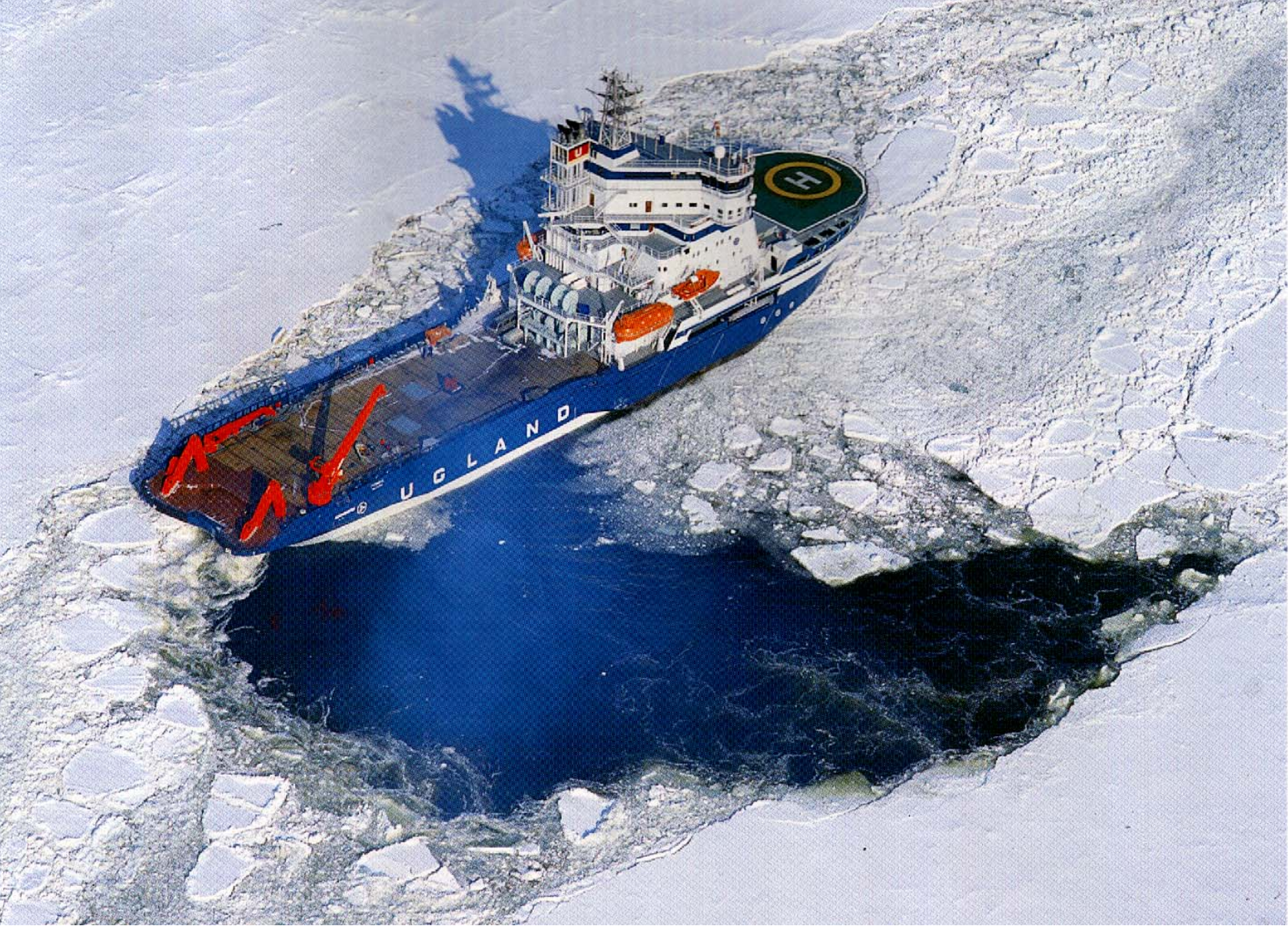
NORDICA
049 246627
049 246551

FAX: **049 107160**

049 246628



FENNICA & NORDICA “FORK”.



Fennica widened lead with one thruster for demo only. In this case ice is level ice, thickness 0.8 metres. Picture is taken from helicopter during the trials.



Icebreaker Fennica about to commence assist Stena Explorer through the pack ice to the open Sea.

During the assistance there was aim that Stena Explorer wouldn't touch ice at all.

Task was almost succeeded , anyhow no damages occurred and operation was a success for a new icebreaker concept-

During this kind of operation the breaker is not in her normal duties and it is always charged and must be negotiated with icebreaker management.

BOTNICA



Length Oa: 96.7m

Breadht: 24.0m

Draught: 7.2 - 8.5m

Propulsion
power: 10000kW

Speed in 0.6m ice : 8.0 kn
Pollard pull: 105 tons

PHONE: 049 203876

FAX: 049 203877

Buildt by Aker Finnyards, Rauma , delivered 1998.

Propulsion consist of twin stern azimuth thrusters each 5.0mW and because of her DP-classification , with 3x bowthrusters.

Ice classification is DNV “Icebreaker Polar 10”.

In spite of having azimuth thrusters as a main propulsion, fairway widening is not so efficient due to the thruster design.



OTSO KONTIO

Length Oa: 99.0m

Breadth: 24.2m

Draught: 8.0m

Speed in 0.8m ice 11.5 kn

Pollard pull: Forward 157 tons
Reversing 127 tons

Buildt by Wärtsilä Helsinki , delivered 1986, Kontio 1987

Propulsion consist of two fixed propellers with fixed pitch and one bowthruster
The type opened a new era in icebreaking technique / thinking :
Diesels are one deck above tank topp, only propellers at stern and bridge is fully covered.



IMPORTANT NUMBERS:

OTSO

KONTIO

PHONE:

049 219680

049 314492

FAX:

049219680

049 228478

Pls note the heith difference of the forks!



URHO SISU

Length Oa: 104.7m

Breadth: 23.9m

Draught: 8.3m

Propulsion power: 16200kW

Speed in 0.8m ice 10.0kn

Pollard pull: 165tons

Buildt by Wärtsilä, Helsinki, delivered 1975, Sisu 1976.

Propulsion is divided to twin stern propellers and twin bow propellers. They all are fixed , as to the shaft and pitch.

Urho interior, one deck, is designed to be a covernement representation premises. Same deck in Sisu are designed for housing students and classroom for them.

Sweden has three icebreakers of the same “Urho “-class.

URHO

SISU

PHONE:

049 219681

049 219682

FAX

049 219683

049 219687





VOIMA

Length Oa: 83.5m

Breadth: 19.4m

Draught: 7.0m

Propulsion power: 10200kW

Pollard pull: 113tons

Buildt by Wärtsilä , Helsinki 1954, engine and deckconstructions renewed 1979.

Propulsion is divided to a traditional Twin astern and twin in bow.

PHONE: 049 318156

FAX 0400 245417

CREWCHANGE DAYS DURING THE OPERATION SEASON 2000 - 2001. List is published 16th oct 2000

KONTIO	6/11, 10/11, 20/11, 30/11, 11/12, 21/12, 29/12, 8/1, 18/1, 29/1, 8/2, 19/2, 1/3, 12/3, 22/3, 2/4, 12/4, 23/4, 3/5, 14/5, 25/5, 5/6, 15/6
NORDICA	8/11, 22/11, 1/12, 12/12, 22/12, 2/1, 12/1, 23/1, 2/2, 13/2, 23/2, 6/3, 16/3, 27/3, 6/4, 17/4
FENNICA	1/11, 15/11, 28/11, 8/12, 19/12, 29/12, 9/1, 19/1, 30/1, 9/2, 20/2, 2/3, 13/3, 23/3, 3/4, 12/4, 24/4,
BOTNICA	7/11, 21/11, 5/12, 12/12, 27/12, 3/1, 15/1, 24/1, 5/2, 13/2, 26/2, 5/3, 16/3, 23/3, 4/4, 10/4, 24/4
OTSO	2/11, 13/11, 23/11, 4/12, 15/12, 27/12, 8/1, 19/1, 30/1, 12/2, 22/2, 5/3, 15/3, 26/3, 5/4, 17/4, 27/4, 7/5, 17/5, 28/5, 7/6
URHO	6/11, 17/11, 28/11, 8/12, 19/12, 28/12, 9/1, 19/1, 31/1, 9/2, 20/2, 2/3, 13/3, 23/3, 3/4, 12/4, 24/4, 4/5, 15/5, 23/5, 1/6, 11/6
SISU -	7/11, 20/11, 30/11, 8/12, 20/12, 2/1, 11/1, 22/1, 1/2, 12/2, 23/2, 7/3, 19/3, 29/3, 9/4, 18/4, 27/4, 9/5, 21/5, 31/5, 12/6
VOIMA	1/11, 10/11, 20/11, 30/11, 11/12, 21/12, 29/12, 8/1, 18/1, 29/1, 8/2, 19/2, 1/3, 12/3, 22/3, 2/4, 12/4, 25/4, 7/5, 16/5, 29/5
APU	9/11, 17/11, 27/11, 7/12, 18/12, 28/12, 10/1, 25/1, 6/2, 16/2, 28/2, 9/3, 20/3, 30/3, 10/4, 20/4, 2/5, 14/5, 25/5